

Title (en)

APPARATUS AND METHOD FOR MEASURING A RELATIVE MOVEMENT OF A TARGET

Title (de)

VORRICHTUNG UND VERFAHREN ZUR MESSUNG EINER RELATIVBEWEGUNG EINES TARGETS

Title (fr)

DISPOSITIF ET PROCÉDÉ DE MESURE D'UN MOUVEMENT RELATIF D'UNE CIBLE

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Application

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Abstract (en)

[origin: WO2010124310A2] The invention relates to a method and to an apparatus (1) for measuring a relative movement of a target (2), comprising a controller (3), at least one coil (7), and at least one reference coil (17), said two coils (7 and 17) inductively interacting with the target (2) for measuring a relative movement, further comprising a capacitor (8) connected to the coil (7) and/or to the reference coil (17), wherein at least parts of the capacitor (8) and of the coils (7, 17) form at least two electric oscillating circuits (9, 16), further comprising at least one electric power supply (10) for exciting the oscillating circuits (9, 16), said power supply being connected to the controller (3), and an evaluation circuit (13), which comprises a time measuring member (14), in particular a TDC member, and is connected to the oscillating circuits (9, 16) in order to generate time measurement data (tg' or tg" and t16' or t16") that are dependent on the particular excitation of the oscillating circuits (9, 16), said data allowing a conclusion to be drawn of the relative movement of the target (2). In order to create an advantageously disturbance-free measurement, it is proposed for the reference coil (17) to be disposed with respect to the target (2) and the coil (7) such that during a relative movement of the target (2) the reference coil (17) is subjected to a substantially opposite inductive change so as to be able to conclude the relative movement of the target (2) by taking the difference of the time measurement data (tg' or tg" and t16' or t16").

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